

**Abstract**

Methods for producing polymer-based microcapsules and nanocapsules for use in diagnostic imaging and delivery of bioactive compounds as well as targeted  
5 imaging and delivery to selected tissues and cells are provided. Compositions containing these microcapsules and nanocapsules for use in diagnostic imaging and delivery of bioactive agents are also provided. Methods  
10 for enhancing delivery of nanocapsules via ultrasound are also provided.